

## PATENT APPLICATION

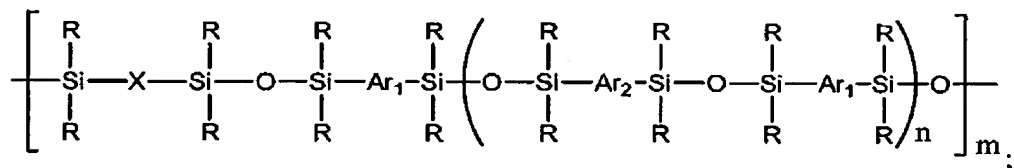
Navy Case No.: 82,942

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1-6. (cancelled)

7. (currently amended): A precursor comprising the formula:



wherein  $n \geq 0$ ;

wherein  $n > 0$ ;

wherein  $n$  is an average value obtained by averaging all repeating units of the precursor;

wherein  $m \geq 1$ ;

wherein  $X$  is a divalent group containing one or more acetylenic groups;

wherein  $\text{Ar}_1$  and  $\text{Ar}_2$  are independently selected aromatic groups; and

wherein each  $R$  is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl, and combinations thereof.

8. (previously presented): The precursor of claim 7, wherein  $X$  is 1,4-butadiynylene.

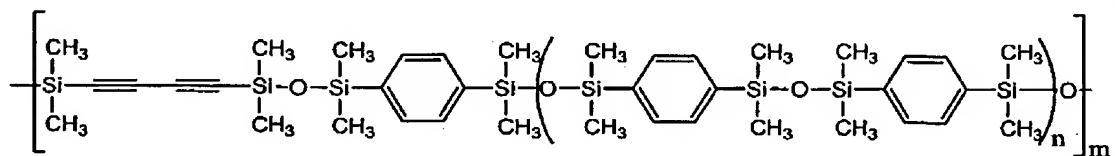
9. (previously presented): The precursor of claim 7, wherein one or more of the  $\text{Ar}_1$  and  $\text{Ar}_2$  groups is phenylene.

10. (previously presented): The precursor of claim 7, wherein one or more of the  $R$  groups is  $-\text{CH}_3$ .

## PATENT APPLICATION

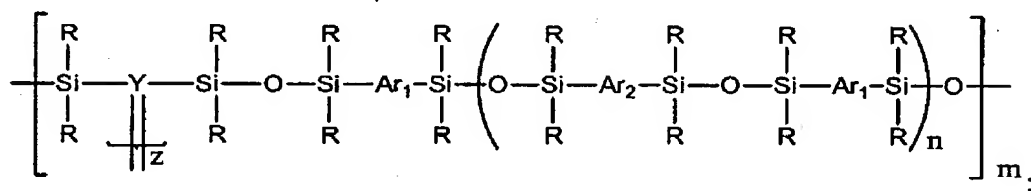
Navy Case No.: 82,942

11. (original): The precursor of claim 7, wherein the precursor comprises the formula:



12. (original): The precursor of claim 11, wherein n is selected from the group consisting of 1, 2, 3, and 4..

13. (currently amended): A networked polymer comprising the formula:



~~wherein  $n \geq 0$ ;~~

wherein  $n > 0$ ;

wherein  $n$  is an average value obtained by averaging all repeating units of the networked polymer;

wherein  $m \geq 1$ ;

wherein Y is a divalent group containing one or more acetylenic groups, one or more crosslinks, or both;

wherein  $z$  is the average number of crosslinks per Y group;

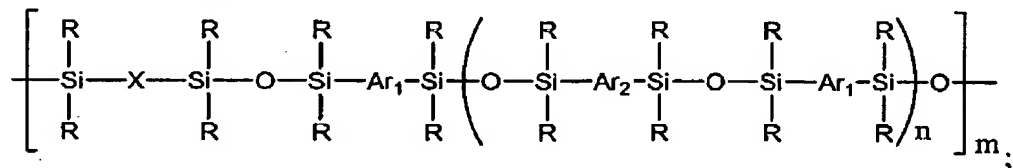
wherein Ar<sub>1</sub> and Ar<sub>2</sub> are independently selected aromatic groups; and

wherein each R is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl, and combinations thereof.

## PATENT APPLICATION

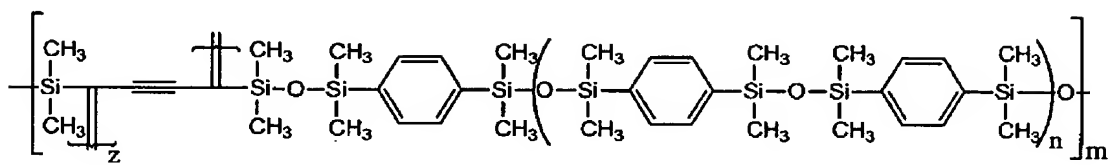
Navy Case No.: 82,942

14. (original): The networked polymer of claim 13, wherein the networked polymer is formed by crosslinking a precursor comprising the formula:

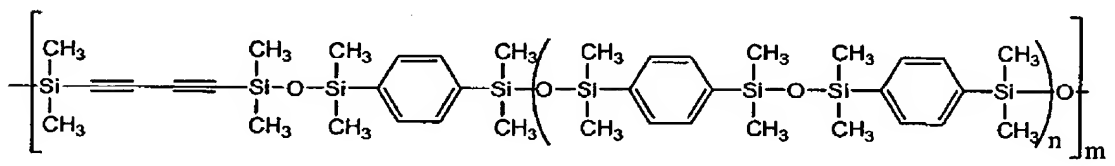


wherein X is a divalent group containing one or more acetylenic groups.

15. (previously presented): The networked polymer of claim 14, wherein X is 1,4-butadiynylene.
16. (previously presented): The networked polymer of claim 13, wherein one or more of the Ar<sub>1</sub> and Ar<sub>2</sub> groups is phenylene.
17. (previously presented): The networked polymer of claim 13, wherein one or more of the R groups is -CH<sub>3</sub>.
18. (original): The networked polymer of claim 13, wherein the networked polymer comprises the formula:



19. (original): The networked polymer of claim 18, wherein the networked polymer is formed by crosslinking a precursor comprising the formula:



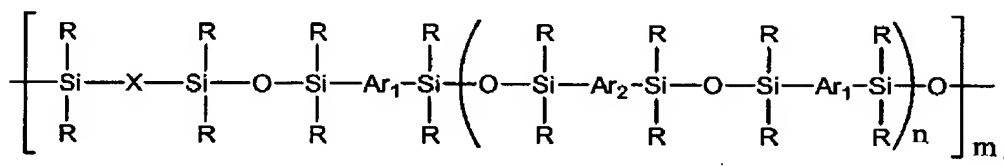
## PATENT APPLICATION

Navy Case No.: 82,942

20. (original): The networked polymer of claim 18, wherein  $n$  is selected from the group consisting of 1, 2, 3, and 4.

21-34. (cancelled)

35. (currently amended): A process of preparing a precursor comprising the formula:



wherein  $n \geq 0$ ;

wherein  $n > 0$ ;

wherein  $n$  is an average value obtained by averaging all repeating units of the precursor;

wherein  $m \geq 1$ ;

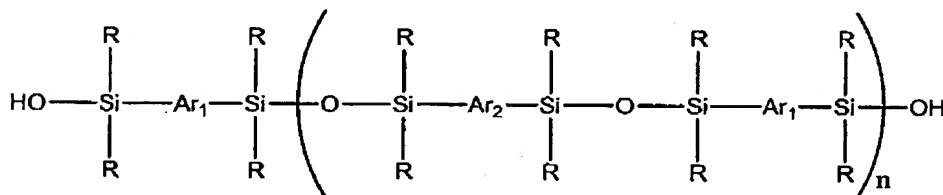
wherein  $X$  is a divalent group containing one or more acetylenic groups;

wherein  $\text{Ar}_1$  and  $\text{Ar}_2$  are independently selected aromatic groups; and

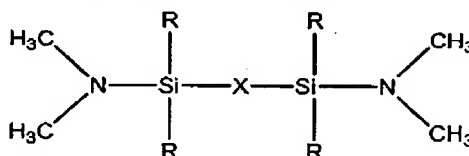
wherein each  $R$  is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl, and combinations thereof;

comprising the step of:

reacting a prepolymer comprising the formula:



with a bis(dimethylaminosilyl)alkyne comprising the formula:

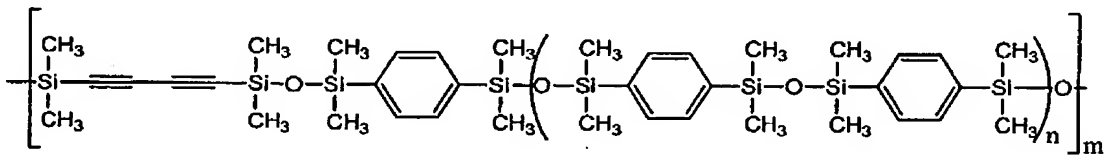
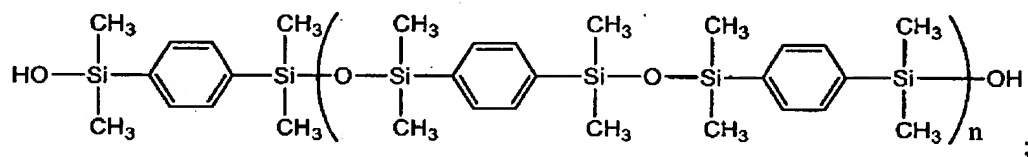


wherein  $X$  is a divalent group containing one or more acetylenic groups.

## PATENT APPLICATION

Navy Case No.: 82,942

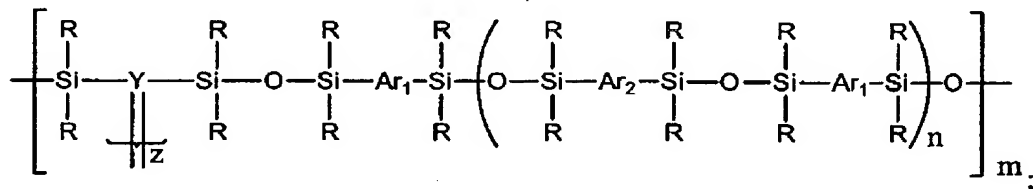
36. (previously presented): The process of claim 35, wherein one or more of the  $Ar_1$  and  $Ar_2$  groups is phenylene.
37. (previously presented): The process of claim 35, wherein one or more of the R groups is  $-CH_3$ .
38. (original): The process of claim 35, wherein the prepolymer comprises the formula:



## PATENT APPLICATION

Navy Case No.: 82,942

39. (currently amended): A process of preparing a networked polymer comprising the formula:



wherein  $n \geq 0$ ;

wherein  $n > 0$ ;

wherein  $n$  is an average value obtained by averaging all repeating units of the networked polymer;

wherein  $m \geq 1$ ;

wherein  $Y$  is a divalent group containing one or more acetylenic groups, one or more crosslinks, or both;

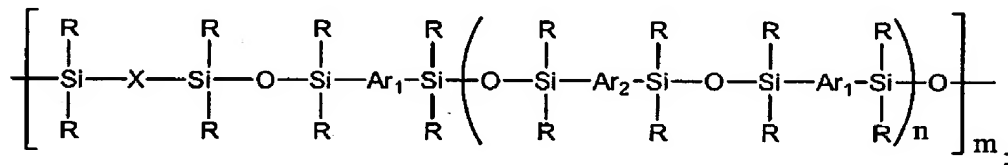
wherein  $z$  is the average number of crosslinks per  $Y$  group;

wherein  $Ar_1$  and  $Ar_2$  are independently selected aromatic groups; and

wherein each  $R$  is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl, and combinations thereof;

comprising the step of:

crosslinking a precursor comprising the formula:



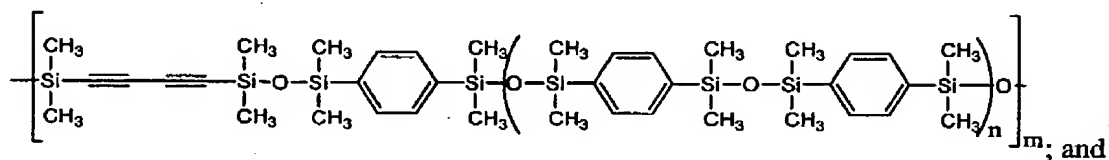
wherein  $X$  is a divalent group containing one or more acetylenic groups.

40. (previously presented): The process of claim 39, wherein one or more of the  $Ar_1$  and  $Ar_2$  groups is phenylene.
41. (previously presented): The process of claim 39, wherein one or more of the  $R$  groups is  $-\text{CH}_3$ .

## PATENT APPLICATION

Navy Case No.: 82,942

42. (original): The process of claim 39, wherein the crosslinking is performed by heating the precursor.
43. (original): The process of claim 42,  
 wherein the heating conditions are at least sufficient to initiate crosslinking; and  
 wherein the heating conditions do not cause degradation of the precursor or the networked polymer.
44. (original): The process of claim 42, wherein the heating is performed at one or more temperatures from about 100°C to about 500°C.
45. (original): The process of claim 39,  
 wherein the precursor comprises the formula:



wherein the networked polymer comprises the formula:

